



# **MANUFACTURING PRODUCTION**

AUSTRALIA

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 EMBARGO: 11:30AM (CANBERRA TIME) FRI 11 MAY 2001

## **C O N T E N T S**

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## NOTES

### FORTHCOMING ISSUES

| <i>ISSUE</i>           | <i>RELEASE DATE</i> |
|------------------------|---------------------|
| June quarter 2001      | 10 August 2001      |
| September quarter 2001 | 9 November 2001     |
| December quarter 2001  | 11 February 2002    |

### IN THIS ISSUE

This publication presents quarterly estimates of selected major indicators of manufacturing production for Australia.

More detailed and other commodity items are collected by the Australian Bureau of Statistics (ABS) and are available to users as a special data service, as are monthly series for a limited number of data items. These data items are listed in paragraph 20 of the Explanatory Notes on page 8.

### EFFECTS OF ROUNDING

Estimates of change shown in this publication have been calculated using unrounded estimates and may be different from, but are more accurate than, movements obtained from the rounded estimates.

### ABBREVIATIONS AND SYMBOLS

|        |  |
|--------|--|
| ABARE  | Australian Bureau of Agricultural and Resource Economics |
| ABS    | Australian Bureau of Statistics                          |
| ADC    | Australian Dairy Corporation                             |
| DISR   | Department of Industry, Science and Resources            |
| n.a.   | not available  |
| n.p.   | not publishable  |
| n.y.a. | not yet available  |
| p      | preliminary  |
| r      | figure or series revised since previous issue            |
| —      | nil or rounded to zero                                   |

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## 1

## QUARTERLY COMMODITY PRODUCTION: All series(a)

| No.       | Item and unit/Series                                | 1999..... 2000..... 2001.. |        |        |         |        |        |        |         |        | Percentage changes<br>between latest<br>quarter shown and.... |                               |  |  |
|-----------|---|----------------------------|--------|--------|---------|--------|--------|--------|---------|--------|---|-------------------------------|--|--|
|           |   | Mar                        | Jun    | Sep    | Dec     | Mar    | Jun    | Sep    | Dec     | Mar    | prev.<br>quarter  | same<br>quarter<br>prev. year |  |  |
|           |   |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
| <b>1</b>  | <b>Red meat</b> ('000 tonnes)                       |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original  | 747                        | 744    | 753    | 752     | 746    | 780    | 792    | r788    | 766    | -2.8  | 2.7                           |  |  |
|           | Seasonally adjusted                                 | 759                        | 737    | 753    | 749     | 756    | 774    | 793    | r784    | 776    | -1.0  | 2.6                           |  |  |
|           | Trend   | 755                        | 748    | 746    | 750     | 761    | 775    | 785    | 785     | 781    | -0.5  | 2.7                           |  |  |
| <b>2</b>  | <b>Chicken meat</b> ('000 tonnes)                   |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original  | 141                        | 139    | 142    | 151     | 150    | 149    | 152    | 161     | 150    | -6.7  | -0.2                          |  |  |
|           | Seasonally adjusted                                 | 141                        | 140    | 144    | 147     | 150    | 151    | 155    | 158     | 150    | -4.9  | —                             |  |  |
|           | Trend   | 140                        | 141    | 144    | 147     | 149    | 153    | 154    | 155     | 153    | -0.8  | 2.7                           |  |  |
| <b>3</b>  | <b>Cheese</b> (tonnes)                              |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original r  | 82 893                     | 66 220 | 79 409 | 116 120 | 98 619 | 75 296 | 75 385 | 113 998 | n.y.a. | 51.2  | -1.8                          |  |  |
|           | Seasonally adjusted r                               | 80 310                     | 86 808 | 92 298 | 86 511  | 95 403 | 98 366 | 87 762 | 85 050  | n.y.a. | -3.1  | -1.7                          |  |  |
|           | Trend   | 82 702                     | 86 674 | 88 731 | 91 827  | 94 143 | 93 853 | 90 654 | 85 951  | n.y.a. | -5.2  | -6.4                          |  |  |
| <b>4</b>  | <b>Butter</b> (tonnes)                              |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original r  | 45 358                     | 30 353 | 36 408 | 66 183  | 40 672 | 28 394 | 41 864 | 60 765  | n.y.a. | 45.1  | -8.2                          |  |  |
|           | Seasonally adjusted r                               | 45 325                     | 48 647 | 43 699 | 42 923  | 40 696 | 45 307 | 50 116 | 39 474  | n.y.a. | -21.2   | -8.0                          |  |  |
|           | Trend   | 45 448                     | 46 277 | 44 870 | 42 410  | 43 039 | 45 045 | 45 435 | 44 225  | n.y.a. | -2.7  | 4.3                           |  |  |
| <b>5</b>  | <b>Beer</b> (megalitres)                            |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original  | r435                       | r383   | 424    | 521     | r421   | r402   | 414    | 500     | 451    | -9.8  | 7.3                           |  |  |
|           | Seasonally adjusted                                 | r444                       | r421   | 462    | 437     | r426   | r441   | 448    | 424     | 458    | 7.9   | 7.4                           |  |  |
|           | Trend   | 436                        | 440    | 442    | 439     | 438    | 435    | 439    | 442     | 445    | 0.7   | 1.6                           |  |  |
| <b>6</b>  | <b>Tobacco and cigarettes</b> (tonnes)              |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original  | 5 198                      | 5 388  | 5 142  | 5 517   | 5 169  | 4 860  | 5 185  | 4 763   | 4 217  | -11.5   | -18.4                         |  |  |
|           | Seasonally adjusted                                 | 5 622                      | 5 287  | 4 709  | 5 738   | 5 538  | 4 774  | 4 771  | 4 948   | 4 588  | -7.3  | -17.2                         |  |  |
|           | Trend   | 5 191                      | 5 197  | 5 276  | 5 358   | 5 328  | 5 079  | 4 824  | 4 754   | 4 729  | -0.5  | -11.3                         |  |  |
| <b>7</b>  | <b>Newsprint</b> ('000 tonnes)                      |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original  | 95                         | 100    | 92     | 95      | 98     | 96     | 100    | 97      | 100    | 3.3   | 3.0                           |  |  |
|           | Seasonally adjusted                                 | 96                         | 99     | 90     | 98      | 96     | 96     | 100    | 100     | 100    | -0.2  | 3.8                           |  |  |
|           | Trend   | 98                         | 96     | 95     | 95      | 96     | 98     | 99     | 100     | 100    | 0.5   | 4.6                           |  |  |
| <b>8</b>  | <b>Wood pulp</b> ('000 tonnes)                      |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original  | 209                        | 214    | 212    | 212     | 221    | 216    | 226    | 227     | 220    | -3.3  | -0.6                          |  |  |
|           | Seasonally adjusted                                 | 210                        | 212    | 215    | 210     | 222    | 214    | 230    | 225     | 220    | -2.0  | -0.6                          |  |  |
|           | Trend   | 214                        | 211    | 213    | 214     | 217    | 221    | 224    | 224     | 224    | -0.4  | 3.2                           |  |  |
| <b>9</b>  | <b>Undressed sawn timber</b> ('000 m <sup>3</sup> ) |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original r  | 890                        | 917    | 1 028  | 932     | 973    | 995    | 963    | 833     | n.y.a. | -13.5   | -10.6                         |  |  |
|           | Seasonally adjusted r                               | 930                        | 906    | 968    | 962     | 1 015  | 984    | 907    | 860     | n.y.a. | -5.2  | -10.6                         |  |  |
|           | Trend   | 913                        | 930    | 951    | 983     | 997    | 969    | 921    | 866     | n.y.a. | -5.9  | -11.8                         |  |  |
| <b>10</b> | <b>Hardwood woodchips</b> ('000 tonnes)             |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original  | 1 179                      | 1 319  | 1 500  | 1 469   | 1 524  | 1 671  | 1 717  | 1 674   | 1 434  | -14.3   | -5.9                          |  |  |
|           | Seasonally adjusted                                 | 1 206                      | 1 274  | 1 471  | 1 520   | 1 559  | 1 610  | 1 686  | 1 734   | 1 467  | -15.4   | -5.9                          |  |  |
|           | Trend   | 1 197                      | 1 307  | 1 427  | 1 517   | 1 571  | 1 636  | 1 671  | 1 645   | 1 575  | -4.2  | 0.2                           |  |  |
| <b>11</b> | <b>Automotive gasoline</b> (megalitres)             |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original  | 4 679                      | 4 939  | 4 903  | 4 713   | 4 429  | 4 607  | 4 524  | 4 398   | n.y.a. | -2.8  | -6.7                          |  |  |
|           | Seasonally adjusted                                 | 4 742                      | 4 808  | 4 916  | 4 774   | 4 491  | 4 480  | 4 505  | 4 439   | n.y.a. | -1.5  | -7.0                          |  |  |
|           | Trend   | 4 711                      | 4 839  | 4 853  | 4 735   | 4 581  | 4 489  | 4 465  | 4 464   | n.y.a. | —   | -5.7                          |  |  |
| <b>12</b> | <b>Fuel oil</b> (megalitres)                        |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original  | 377                        | 407    | 350    | 486     | 539    | 464    | 475    | 527     | n.y.a. | 10.9  | 8.3                           |  |  |
|           | Seasonally adjusted                                 | n.p.                       | n.p.   | n.p.   | n.p.    | n.p.   | n.p.   | n.p.   | n.p.    | n.y.a. | n.p.  | n.p.                          |  |  |
|           | Trend   | 397                        | 380    | 406    | 462     | 497    | 499    | 489    | 494     | n.y.a. | 1.1   | 7.0                           |  |  |
| <b>13</b> | <b>Aviation turbine fuel</b> (megalitres)           |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original  | 1 288                      | 1 286  | 1 350  | 1 419   | 1 393  | 1 376  | 1 418  | 1 463   | n.y.a. | 3.2   | 3.1                           |  |  |
|           | Seasonally adjusted                                 | 1 256                      | 1 397  | 1 333  | 1 363   | 1 359  | 1 493  | 1 399  | 1 406   | n.y.a. | 0.6   | 3.2                           |  |  |
|           | Trend   | 1 263                      | 1 288  | 1 320  | 1 361   | 1 402  | 1 426  | 1 428  | 1 416   | n.y.a. | -0.8  | 4.1                           |  |  |
| <b>14</b> | <b>Automotive diesel oil</b> (megalitres)           |                            |        |        |         |        |        |        |         |        |   |                               |  |  |
|           | Original  | 3 194                      | 3 391  | 3 287  | 3 404   | 3 025  | 3 021  | 3 052  | 3 471   | n.y.a. | 13.7  | 2.0                           |  |  |
|           | Seasonally adjusted                                 | 3 232                      | 3 369  | 3 387  | 3 249   | 3 037  | 3 004  | 3 161  | 3 350   | n.y.a. | 6.0   | 3.1                           |  |  |
|           | Trend   | 3 275                      | 3 352  | 3 343  | 3 226   | 3 080  | 3 063  | 3 157  | 3 269   | n.y.a. | 3.6   | 1.3                           |  |  |

(a) Trend estimates shown may have been revised. See paragraph 15 of the Explanatory Notes.

| No.       | Item and unit/Series  | 1999..... |       |       |       | 2000..... |        |        |       | 2001.. |                  | Percentage changes<br>between latest<br>quarter shown and.... |  |
|-----------|---|-----------|-------|-------|-------|-----------|--------|--------|-------|--------|------------------|---|--|
|           |   | Mar       | Jun   | Sep   | Dec   | Mar       | Jun    | Sep    | Dec   | Mar    | prev.<br>quarter | same<br>quarter<br>prev. year                                 |  |
| <b>15</b> | <b>Portland cement</b> ('000 tonnes)                              |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original  | 1 737     | 1 944 | 2 005 | 2 027 | 1 835     | 2 070  | 1 898  | 1 652 | 1 554  | -6.0             | -15.3   |  |
|           | Seasonally adjusted   | 1 911     | 1 916 | 1 931 | 1 941 | 1 996     | 2 041  | 1 835  | 1 605 | 1 693  | 5.5              | -15.2   |  |
|           | Trend(b)  | 1 941     | 1 922 | 1 922 | 1 959 | 2 015     | 1 999  | 1 885  | 1 743 | 1 624  | -6.8             | -19.4   |  |
| <b>16</b> | <b>Clay bricks</b> (million)                                      |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original  | 383       | 408   | 437   | 425   | 423       | 450    | 420    | 382   | 298    | -22.0            | -29.6   |  |
|           | Seasonally adjusted   | 420       | 401   | 407   | 427   | 456       | 443    | 394    | 385   | 324    | -15.6            | -28.9   |  |
|           | Trend(b)  | 405       | 407   | 414   | 431   | 446       | 443    | 415    | 377   | 336    | -10.7            | -24.6   |  |
| <b>17</b> | <b>Ready mixed concrete</b> ('000 m <sup>3</sup> )                |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original  | 4 251     | 4 611 | 5 187 | 5 217 | 4 864     | 5 329  | 4 665  | 4 176 | 3 922  | -6.1             | -19.4   |  |
|           | Seasonally adjusted   | 4 574     | 4 655 | 4 923 | 5 081 | 5 237     | 5 379  | 4 427  | 4 064 | 4 224  | 3.9              | -19.3   |  |
|           | Trend(b)  | 4 641     | 4 706 | 4 873 | 5 119 | 5 292     | 5 167  | 4 776  | 4 353 | 4 027  | -7.5             | -23.9   |  |
| <b>18</b> | <b>Basic iron, spiegeleisen and<br/>sponge iron</b> ('000 tonnes) |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original  | 1 841     | 1 827 | 1 972 | 1 507 | 1 503     | 1 507  | 1 567  | (e)   | (e)    | 4.0              | -20.5   |  |
|           | Seasonally adjusted   | 1 865     | 1 832 | 1 931 | 1 524 | 1 516     | 1 511  | 1 531  | (e)   | (e)    | 1.3              | -20.7   |  |
|           | Trend(c)  | 1 851     | 1 870 | 1 888 | 1 530 | 1 522     | 1 517  | 1 523  | (e)   | (e)    | 0.4              | -19.4   |  |
| <b>19</b> | <b>Blooms and slabs of iron or steel</b><br>(‘000 tonnes)         |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original  | 1 864     | 1 900 | 2 056 | 1 505 | 1 577     | 1 604  | 1 681  | (e)   | (e)    | 4.8              | -18.2   |  |
|           | Seasonally adjusted   | 1 891     | 1 908 | 1 986 | 1 532 | 1 599     | 1 610  | 1 624  | (e)   | (e)    | 0.9              | -18.2   |  |
|           | Trend(c)  | 1 898     | 1 919 | 1 951 | 1 559 | 1 584     | 1 608  | 1 630  | (e)   | (e)    | 1.3              | -16.5   |  |
| <b>20</b> | <b>Alumina</b> ('000 tonnes)                                      |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original  | 3 522     | 3 601 | 3 707 | 3 702 | 3 710     | r3 918 | r4 004 | 4 049 | n.y.a. | 1.1              | 9.4   |  |
|           | Seasonally adjusted   | 3 612     | 3 582 | 3 657 | 3 711 | 3 757     | r3 898 | r3 943 | 4 046 | n.y.a. | 2.6              | 9.0   |  |
|           | Trend   | 3 582     | 3 611 | 3 647 | 3 704 | 3 783     | 3 871  | 3 959  | 4 029 | n.y.a. | 1.8              | 8.8   |  |
| <b>21</b> | <b>Zinc</b> ('000 tonnes)   |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original  | 79        | 85    | 90    | 90    | 112       | 112    | 139    | 127   | n.y.a. | -8.6             | 41.1  |  |
|           | Seasonally adjusted   | 81        | 84    | 88    | 90    | 115       | 111    | 136    | 127   | n.y.a. | -6.8             | 41.2  |  |
|           | Trend   | 81        | 84    | 88    | 89    | 114       | 120    | 126    | 130   | n.y.a. | 3.0              | 45.8  |  |
| <b>22</b> | <b>Silver</b> (tonnes)  |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original  | 96        | 113   | 134   | 129   | 131       | 149    | 110    | 148   | n.y.a. | 34.5             | 14.7  |  |
|           | Seasonally adjusted   | n.p.      | n.p.  | n.p.  | n.p.  | n.p.      | n.p.   | n.p.   | n.p.  | n.y.a. | n.p.             | n.p.  |  |
|           | Trend   | 105       | 104   | 133   | 137   | 134       | 130    | 131    | 135   | n.y.a. | 3.2              | -1.5  |  |
| <b>23</b> | <b>Copper</b> ('000 tonnes)                                       |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original r  | 77        | 102   | 119   | 117   | 114       | 126    | 117    | 130   | n.y.a. | 11.1             | 11.1  |  |
|           | Seasonally adjusted r   | 84        | 95    | 115   | 122   | 123       | 117    | 113    | 136   | n.y.a. | 20.0             | 11.2  |  |
|           | Trend   | 83        | 98    | 112   | 121   | 121       | 119    | 121    | 126   | n.y.a. | 4.7              | 4.6   |  |
| <b>24</b> | <b>Lead</b> ('000 tonnes)   |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original  | 53        | 62    | 65    | 60    | 55        | 55     | 51     | 63    | n.y.a. | 23.5             | 5.0   |  |
|           | Seasonally adjusted   | 52        | 59    | 67    | 61    | 54        | 53     | 53     | 65    | n.y.a. | 22.3             | 5.2   |  |
|           | Trend   | 53        | 60    | 64    | 61    | 56        | 53     | 56     | 60    | n.y.a. | 7.2              | -2.7  |  |
| <b>25</b> | <b>Tin</b> (tonnes)   |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original  | 170       | 150   | 140   | 125   | 155       | 180    | 215    | 225   | n.y.a. | 4.7              | 80.0  |  |
|           | Seasonally adjusted   | 161       | 129   | 150   | 147   | 144       | 159    | 224    | 249   | n.y.a. | 10.8             | 68.7  |  |
|           | Trend   | 145       | 144   | 143   | 141   | 149       | 174    | 211    | 240   | n.y.a. | 13.7             | 69.7  |  |
| <b>26</b> | <b>Gold</b> (tonnes)  |           |       |       |       |           |        |        |       |        |                  |   |  |
|           | Original  | 96        | 86    | 78    | 115   | 88        | 101    | 78     | 82    | n.y.a. | 5.1              | -28.7   |  |
|           | Seasonally adjusted   | n.p.      | n.p.  | n.p.  | n.p.  | n.p.      | n.p.   | n.p.   | n.p.  | n.y.a. | n.p.             | n.p.  |  |
|           | Trend(d)  | 94        | 89    | 88    | 93    | 97        | 93     | 86     | 81    | n.y.a. | -5.3             | -13.2   |  |

(a) Trend estimates shown may have been revised. See paragraph 15 of the Explanatory Notes.

(e) Inclusion of this item is under review, due to significant restructuring in the iron and steel industry.

(b) Due to an abnormal movement in the original series for September quarter 2000, the trend has been modified to remove the effect. See also paragraphs 14–16 of the Explanatory Notes.

(c) Due to an abnormal movement in the original series for December quarter 1999, the trend has been modified to remove the effect. See also paragraphs 14–16 of the Explanatory Notes.

(d) Due to abnormal movements in the original series for each of September quarter 1998 and December quarter 1999, the trend has been modified to remove the effect. See also paragraphs 14–16 of the Explanatory Notes.

# 1

## QUARTERLY COMMODITY PRODUCTION: All series(a) *continued*

| No.       | Item and unit/Series             | 1999..... |        |        | 2000..... |        |        | 2001.. |        |        | Percentage changes<br>between latest<br>quarter shown and.... |                               |
|-----------|----------------------------------|-----------|--------|--------|-----------|--------|--------|--------|--------|--------|---|-------------------------------|
|           |                                  | Mar       | Jun    | Sep    | Dec       | Mar    | Jun    | Sep    | Dec    | Mar    | prev.<br>quarter  | same<br>quarter<br>prev. year |
| <b>27</b> | <b>Electricity</b> (million kWh) |           |        |        |           |        |        |        |        |        |   |                               |
|           | Original                         | 45 084    | 45 227 | 46 785 | 44 591    | 46 040 | 47 374 | 49 387 | 45 977 | 46 865 | 1.9   | 1.8                           |
|           | Seasonally adjusted              | 46 054    | 45 043 | 44 866 | 45 783    | 47 006 | 47 191 | 47 383 | 47 200 | 47 836 | 1.3   | 1.8                           |
|           | Trend(b)                         | 44 800    | 44 931 | 45 214 | 45 862    | 46 701 | 47 210 | 47 327 | 47 442 | 47 641 | 0.4   | 2.0                           |
| <b>28</b> | <b>Gas</b> (petajoules)(c)       |           |        |        |           |        |        |        |        |        |   |                               |
|           | Original                         | 145       | 182    | 198    | 165       | 164    | 199    | 213    | 172    | 174    | 1.3   | 6.2                           |
|           | Seasonally adjusted              | 169       | 171    | 172    | 178       | 192    | 187    | 186    | 185    | 203    | 9.9   | 6.1                           |
|           | Trend                            | 170       | 170    | 174    | 180       | 186    | 187    | 187    | 190    | 197    | 3.5   | 5.7                           |

(a) Trend estimates shown may have been revised. See paragraph 15 of the Explanatory Notes.

(b) Due to an abnormal movement in the original series for March quarter 1999, the trend has been modified to remove the effect. See also paragraphs 14–16 of the Explanatory Notes.

(c) From September quarter 1999, there has been an improvement in coverage for this item. This improvement contributed approximately a 6.5% increase for that quarter.

# EXPLANATORY NOTES

## INTRODUCTION

**1** This publication presents quarterly estimates of production of selected major manufacturing commodities for Australia.

## SCOPE AND COVERAGE

**2** Data presented in this publication are collected from a number of different sources. The prime source is the ABS surveys of manufacturing production. Data are also obtained from surveys undertaken by the Department of Industry, Science and Resources (DISR), the Australian Bureau of Agricultural and Resource Economics (ABARE), the Australian Dairy Corporation (ADC) and from ABS agriculture collections. Scope and coverage varies slightly depending on the source of the information.

**3** Production statistics sourced from ABS manufacturing production surveys are not collected from single establishment manufacturing businesses with fewer than four persons employed, nor from establishments predominantly engaged in non-manufacturing activities but which may carry out some manufacturing in a minor way. However, in general, the contribution of these small producers to statistical aggregates is only marginal and data contained in this publication provide reliable information for the evaluation of movements in commodity production.

**4** The statistics of meat production include data collected from abattoirs and other major slaughtering establishments, plus estimates of animals slaughtered for human consumption on farms and by country butchers and other small slaughtering establishments. Further information about this series, including more detail, is available in the monthly publication *Livestock and Meat, Australia* (Cat. no. 7218.0) and in the quarterly publication *Livestock Products, Australia* (Cat. no. 7215.0).

**5** The statistics on chicken meat have been collected from commercial poultry slaughtering establishments. Many very small producers and Tasmanian producers are excluded from the collection; however, the statistics represent a high level of coverage. Further information about this series, including more detail, is available in the quarterly publication *Livestock Products, Australia* (Cat. no. 7215.0).

**6** Data on the production of base metals and sawn timber are obtained from the ABARE publications *Mineral Statistics* and *Australian Forest Products Statistics*.

**7** Data on the production of fuels are obtained from the DISR Petroleum and Fisheries Division publication *Australian Petroleum Statistics*.

**8** Data on the production of cheese and butter are obtained from the ADC as unpublished data.

## COMPARABILITY WITH OTHER ESTIMATES

**9** The quarterly production statistics presented in this publication account, in total, for less than one-quarter of the output of the manufacturing sector. For information on general trends in the manufacturing sector, refer to the publications shown in paragraphs 10, 11 and 18.

**10** Details of the value of manufacturers' sales and inventories are published quarterly in *Inventories and Sales, Selected Industries, Australia* (Cat. no. 5629.0). Information about the manufacturing sector's contribution to the Australian economy is published quarterly in *Australian National Accounts: National Income, Expenditure and Product* (Cat. no. 5206.0).

## COMPARABILITY WITH OTHER ESTIMATES *continued*

**11** Details from the annual manufacturing collection are published in *Manufacturing Industry, Australia* (Cat. no. 8221.0) and corresponding State publications.

## SEASONALLY ADJUSTED AND TREND ESTIMATES

**12** In the seasonal adjustment process, account has been taken not only of normal seasonal factors but also, where appropriate, of 'working day' effects (arising from the varying numbers of Sundays, Mondays, Tuesdays, etc. in the quarter) which may, in successive years, affect figures for different quarters. Details of the methods used in seasonally adjusting these series are available on request.

**13** Seasonal adjustment procedures do not aim to remove the irregular or non-seasonal influences which may be present in any particular quarter, such as the non-systematic effect of strikes, holiday shutdowns, providers' inconsistent reporting periods (where, for example, a 'quarter' may variously represent 13 or 14 weeks production), or other factors which vary with the prevailing demand for products. Irregular influences that are highly volatile can make it difficult to interpret the movement of the series even after seasonal adjustment. Seasonally adjusted estimates of production for the series 21 Zinc, 23 Copper and 25 Tin are more volatile than other series. Seasonally adjusted estimates for 12 Fuel oil and 22 Silver are not sufficiently reliable to be published, while those for 26 Gold do not exhibit sufficient seasonal behaviour to be published.

**14** The smoothing of seasonally adjusted series to create trend estimates is a means of reducing the impact of the irregular component of the series. The trend estimates have been derived by applying a 7-term moving average to the quarterly seasonally adjusted series. The 7-term Henderson averages (like all Henderson averages) are symmetric but, as the end of a time series is approached, asymmetric forms of the average are applied. Unlike the weights of the standard 7-term Henderson moving average, the surrogate weights employed with the quarterly data have been tailored to suit the particular characteristics of individual series.

**15** While the asymmetric weights enable trend estimates for recent quarters to be produced, it does result in revisions to the estimates for the most recent quarters as additional observations become available. Generally, subsequent revisions become smaller and after two quarters have little impact on the series. There will also be revisions as a result of changes to the original estimates and annual reviews of seasonal and 'working day' factors.

**16** More detailed up-to-date information on smoothing of seasonally adjusted time series data is available in unpublished form. Interested users should contact the ABS's Time Series Analysis section, on Canberra 02 6252 5132 or by email through the internet to [timeseries@abs.gov.au](mailto:timeseries@abs.gov.au).

## ACKNOWLEDGEMENT

**17** ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated: without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the *Census and Statistics Act 1905*.

## RELATED PUBLICATIONS

- 18** Other ABS publications which may be of interest are:
- *Australian Mining Industry* (Cat. no. 8414.0) issued biennially
  - *Information Paper: Availability of Statistics Related to Manufacturing, 1997* (Cat. no. 8205.0), released on 16 January 1998
  - *Livestock and Meat, Australia* (Cat. no. 7218.0) issued monthly
  - *Livestock Products, Australia* (Cat. no. 7215.0) issued quarterly
  - *Manufacturing, Australia, 2000* (Cat. no. 8225.0) released on 22 December 2000
  - *Manufacturing Industry, Australia, 1998–99* (Cat. no. 8221.0) released on 22 September 2000
  - *Manufacturing Industry, Australia, Preliminary, 1999–2000* (Cat. no. 8201.0) released on 29 March 2001
  - *Manufacturing Production, Australia: Commodities Produced, 1997–98* (Cat. no. 8365.0) released on 16 December 1999
  - *Mining Operations, Australia* (Cat. no. 8415.0) issued biennially

## OTHER PUBLISHED STATISTICS

**19** Some annual manufacturing production series which mainly relate to textiles, clothing and footwear are published in the June and September quarter issues of this publication. Selected annual food series were last published in the September quarter 2000 issue.

## ABS DATA AVAILABLE ON REQUEST

**20** More detailed and other commodity items are collected by the ABS and are available to users as a special data service, as are monthly series for a limited number of the data items contained in this publication. Items for which additional production data are available are:

beer  
cars and station wagons  
clay bricks  
concrete bricks, blocks and pavers  
cotton broadwoven fabric  
cotton yarn  
hosiery  
knitted sweatshirts and sloppy-joes  
knitted underwear  
malt  
man-made fibre broadwoven fabric  
men's and boys' long trousers and shorts  
men's and boys' shirts  
men's complete suits and men's and boys' woven coats  
mowers  
other clothing (excluding those listed here)  
plasterboard  
Portland cement and cement clinkers  
ready mixed concrete  
roofing tiles  
semi-trailers  
space heaters  
starches, wheat gluten and glucose  
textile floor coverings  
water heaters



## EXPLANATORY NOTES *continued*

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### UNPUBLISHED STATISTICS *continued*

women's shirts and blouses  
wool broadwoven fabric  
wool yarn

For further information, please contact Denis Linney on Sydney 02 9268 4219.

### CURRENT PUBLICATIONS

**21** Current publications and other products produced by the ABS are listed in the *Catalogue of Publications and Products* (Cat. no. 1101.0). The ABS also issues, on Tuesdays and Fridays, a *Release Advice* (Cat. no. 1105.0) which lists products to be released in the next few days. The Catalogue and Release Advice are available from any ABS office or by subscription, and can also be accessed through the ABS web site [www.abs.gov.au](http://www.abs.gov.au).

## APPENDIX CLARIFICATION OF TERMS

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- |   |   |
|---|---|
| 1 Red meat                                  | Includes veal, pork and buffalo.  |
| 2 Chicken meat                              | Expressed in the dressed weight of whole birds, pieces and giblets.   |
| 3 Cheese                                    | Includes fresh cheeses such as ricotta, cottage, cream and quark.   |
| 4 Butter                                    | Includes direct butter oil.   |
| 5 Beer                                      | Includes ale and stout; excludes low alcohol beer containing less than 1.15% but more than 0.5%, by volume of alcohol.  |
| 6 Tobacco and cigarettes                    | Includes those containing tobacco substitutes.  |
| 7 Newsprint                                 | Excludes directory paper, mechanical and printing paper.  |
| 8 Wood pulp                                 | Expressed as air-dried weight.  |
| 9 Undressed sawn timber                     | Expressed in terms of green off saw volumes.  |
| 10 Hardwood woodchips                       | Expressed as greenweight; excludes chips which are not sold or are used in own works.   |
| 11 Automotive gasoline                      | Produced by Australian refineries from imported and indigenous petroleum.   |
| 12 Fuel oil                                 | Oils derived from the distillation of petroleum which are generally used for domestic heating or fuelling furnaces; produced by Australian refineries from imported and indigenous petroleum. |
| 13 Aviation turbine fuel                    | Produced by Australian refineries from imported and indigenous petroleum.   |
| 14 Automotive diesel oil                    | Produced by Australian refineries from imported and indigenous petroleum.   |
| 15 Portland cement                          | Includes blended Portland cement. Excludes both Portland cement clinker and Portland cement used to make blended Portland cement in-house.  |
| 16 Clay bricks                              | Saleable bricks (of all sizes) removed from kiln; excludes firebricks and bricks for other than structural purposes.  |
| 17 Ready mixed concrete                     | Excludes production used or for use within the same business.   |
| 18 Basic iron, spiegeleisen and sponge iron | In pigs, blocks and other primary forms; includes pig iron. This item comprises production of BHP Steel only.   |
| 19 Blooms and slabs of iron or steel        | Continuous cast; includes steel in the molten state. This item comprises production of BHP Steel only.  |
| 20 Alumina                                  | Aluminium oxide.  |
| 21 Zinc                                     | Primary origin only.  |
| 22 Silver                                   | Refined.  |
| 23 Copper                                   | Primary origin only.  |
| 24 Lead                                     | Includes lead content of lead from primary sources.   |
| 25 Tin                                      | Primary origin only.  |
| 26 Gold                                     | From primary and secondary sources.   |

**APPENDIX CLARIFICATION OF TERMS** *continued*

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- 27 **Electricity** Excludes purchases or transfers in of electricity.
  
- 28 **Gas** Gas (including natural gas) available for issue through mains, including gas production for distribution via natural gas pipelines which service a single user.

## FOR MORE INFORMATION...

- INTERNET* **www.abs.gov.au** the ABS web site is the best place to start for access to summary data from our latest publications, information about the ABS, advice about upcoming releases, our catalogue, and Australia Now—a statistical profile.
- LIBRARY* A range of ABS publications is available from public and tertiary libraries Australia-wide. Contact your nearest library to determine whether it has the ABS statistics you require, or visit our web site for a list of libraries.
- CPI INFOLINE* For current and historical Consumer Price Index data, call 1902 981 074 (call cost 77c per minute).
- DIAL-A-STATISTIC* For the latest figures for National Accounts, Balance of Payments, Labour Force, Average Weekly Earnings, Estimated Resident Population and the Consumer Price Index call 1900 986 400 (call cost 77c per minute).

## INFORMATION SERVICE

Data which have been published and can be provided within five minutes are free of charge. Our information consultants can also help you to access the full range of ABS information—ABS user-pays services can be tailored to your needs, time frame and budget. Publications may be purchased. Specialists are on hand to help you with analytical or methodological advice.

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2830100003018  
ISSN 1323-3645

RRP \$17.00